

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method comprising:

~~of making a surface pattern of spaced dissimilar electrodes electrical conductors that will~~
~~to spontaneously produce [[an]] electrical currents current when brought into contact with an~~
~~electrically conducting solution, by electrolytic solution of the human body, comprising the steps~~
~~of:~~

~~defining a primary surface on an article;~~

~~selecting a first conductive element and a second conductive element, the first conductive~~
~~element being nobler in the electrochemical series than the second conductive element;~~

~~grinding the first conductive element into a first powder;~~

~~grinding the second conductive element into a second powder;~~

~~mixing the first powder with a binder to form a first ink;~~

~~mixing the second powder with a binder to form a second ink;~~

~~printing the a first ink onto the a primary surface of an article to form a first pattern~~
~~comprising at least one discrete design, wherein the first ink includes a first element; and~~

~~printing the a second ink onto the primary surface to form a second pattern that is~~
~~interspersed throughout the first pattern, but such that the first ~~conductive~~ element does not~~
~~amalgamate with the a second ~~conductive~~ element, wherein the second ink includes the second~~
~~element, [[:]]~~

~~curing the first pattern and the second pattern such that they are fixed to the primary surface; and~~

~~interfacing at least part of the primary surface with an electrolytic solution such that and~~
~~wherein at least part of the first pattern and the second pattern are to spontaneously produce an~~
~~the electrical current currents when at least part of the primary surface is interfaced with the~~
~~electrically conducting solution.~~

2. (Currently Amended) The method of claim 1, further comprising:

grinding the first element into a first powder; and
mixing the first powder with a binder to form the first ink, wherein the binder used to form the first ink is a biocompatible polyacrylic ink.

3. (Currently Amended) The method of claim 1, further comprising:

grinding the first element into a first powder; and
mixing the first powder with a binder to form the first ink, wherein the binder used to form the first ink is a biocompatible epoxy.

4. (Currently Amended) The method of claim 1 wherein the printing is ~~steps are~~ performed using a screen printing apparatus, ~~and the curing step is performed by drying the screen printed inks.~~

5. (Currently Amended) The method of claim 1 wherein the second pattern is interspersed throughout the first pattern such that there is at least a half millimeter spacing between selected ones ~~any~~ of the first ~~conductive~~ element and ~~any~~ of the second ~~conductive~~ element.

6. (Currently Amended) The method of claim 1 further comprising ~~the steps of:~~
grinding the first element into a first powder;
sifting the first powder through at least one screen such that those particles of the first powder that are substantially of a predetermined size are used in the first named mixing step; ~~and~~
mixing the first powder with a binder to form the first ink;
grinding the second element into a second powder;
sifting the second powder through at least one screen; and
mixing such that those particles of the second powder that are substantially of a predetermined size with a binder to form the second ink ~~are used in the second named mixing~~
step.

7. (Currently Amended) The method of claim 1, further comprising:
grinding the first element into a first powder; and
mixing the first powder with a binder to form the first ink, wherein the binder mixed with the first powder comprises at least fifteen percent, by weight, of the first ink.

8. (Currently Amended) ~~A printed pattern of voltaic cells~~ An apparatus comprising:
a primary surface of an article;

a first design formed from a first ink that includes a mixture of a solvent-reducible polymer and a first conductive element, wherein the first ink is printed into a position of contact with the primary surface;

a second design formed from a second ink that includes a mixture of a solvent-reducible polymer and a second conductive element, wherein the second conductive element includes being a different metal species than the first conductive element, and wherein the second ink is printed into a position of contact with the primary surface;

~~a first design formed where the first ink is printed into a position of contact with the primary surface;~~

~~a second design formed where the second ink is printed into a position of contact with the primary surface;~~

a spacing on the primary surface that is between the first design and the second design such that the first design does not ~~cannot~~ physically contact the second design;

at least one repetition of the first design and the second design, the at least one first design repetition being substantially adjacent the second design₁; ~~and~~

wherein, when an a-user-provided electrolytic solution is that, when brought into contact with the primary surface, causes the first design, and the second design, and the at least one repetition are to spontaneously produce [[an]] electrical currents current, and causes the at least one repetition to spontaneously produce an electrical current.

9. (Currently Amended) The ~~printed pattern of voltaic cells apparatus~~ of claim 8 wherein the first design ~~is substantially~~ includes at least one dot, ~~each~~ wherein selective ones of the at least one dot having have approximately a 1.5 mm ± 1 mm mean diameter; and wherein the

second design is substantially a includes at least one other dot, wherein selective ones of the at least one other dot have approximately having a 2.5 mm \pm 2 mm mean diameter; and wherein the spacing is approximately 1.5 mm \pm 1 mm.

10. (Currently Amended) The ~~printed pattern of voltaic cells~~ apparatus of claim 9 further comprising a fine line, ~~less than 0.2 mm wide,~~ of one of the first or second inks printed at least partially in the spacing and connecting to at least one of the first or second designs.

11. (Currently Amended) The ~~printed pattern of voltaic cells~~ apparatus of claim 9 wherein the first design is includes a hexagonally shaped dot; the second design is includes two hexagonally shaped dots that are spaced from each other by approximately 2.5 mm \pm 2 mm; and wherein multiple repetitions of the first design and the second design ~~result results~~ in at least one pattern characterized by the first design being surrounded by six hexagonally shaped dots of the second design.

12. (Currently Amended) The ~~printed pattern of voltaic cells~~ apparatus of claim 8 wherein the first design is includes a line that is approximately 2.5 mm \pm 2 mm wide; and wherein the spacing is approximately 1.5mm \pm 1 mm.

13. (Currently Amended) The ~~printed pattern of voltaic cells~~ apparatus of claim 8 wherein the first design is comprised of visible symbols.

14. (Currently Amended) A method of making a current producing wound dressing

comprising the steps of:

~~selecting a pliable dressing material having a face and a back;~~

~~mixing a biocompatible solvent reducible polymer and a first conductive element to form a first fluid;~~

~~mixing a biocompatible solvent reducible polymer and a second conductive element to form a second fluid;~~

applying the a first fluid to the a face of the a pliable dressing material to form a first design, wherein the first fluid includes a first biocompatible polymer and a first element;

applying the a second fluid to the face of the pliable dressing material to form a second design such that the second design is not physically contacting the first design, wherein the second fluid includes a second biocompatible polymer and a second element to form a second fluid; and

repeating the first design and the second design to create a pattern, ~~visible by the naked eye~~, that alternates between the first design and the second design~~[[;]]~~ ,

~~curing the first fluid and the second fluid onto the pliable dressing material;~~

~~cutting the pliable dressing material to an appropriate size for a single use; and~~

wherein ~~applying~~ the pliable dressing material is to be applied to an area of damaged tissue over a wound such that an ~~electrolytic~~ electrically conducting solution at least partially contacts the area wound and the face of the pliable dressing material, to cause ~~causing~~ at least part of the pattern of the first design and the second design to spontaneously produce ~~[[an]]~~ electrical currents ~~current~~.

15. (Currently Amended) The method of claim 14 further comprising ~~the step of~~ fixing an absorbent cloth layer to ~~a~~ the back of the pliable dressing material.
16. (Currently Amended) The method of claim 15 further comprising ~~the step of~~ bonding an elastic adhesive layer to the absorbent cloth layer such that there is at least one overlapping piece of the elastic adhesive layer for securing ~~an applied~~ the pliable dressing material over an area of damaged tissue ~~a wound~~.
17. (Currently Amended) The method of claim 14 wherein the first ~~conductive~~ element includes a ~~is~~ high purity silver powder, and wherein the second ~~conductive~~ element includes ~~is~~ a high purity zinc powder.
18. (Currently Amended) The method of claim 17 wherein ~~the steps of~~ applying the first fluid and applying the second fluid ~~are characterized by~~ include screen printing the first fluid and the second fluid onto the pliable dressing material.
19. (Currently Amended) The method of claim 17 wherein at least some ~~half~~ of the particles of the ~~high purity~~ silver powder are ~~between 20 and 200~~ approximately 100 microns or less in size.
20. (Currently Amended) The method of claim 14 wherein the biocompatible ~~solvent~~ ~~reducible~~ polymer ~~used in the mixing steps will~~ is to slowly degrade when in contact with the

~~electrolytic~~ electrically conducting solution such that the ~~conductive~~ elements are gradually
~~exposed to expose~~ to the ~~electrolytic~~ electrically conducting solution.

21. (New) An apparatus comprising:
an article having a primary surface; and
a pattern of spaced dissimilar materials, on the primary surface, wherein the pattern is to spontaneously produce electrical surface currents when brought into contact with a conductive material.
22. (New) The apparatus of claim 21, wherein the pattern comprises:
a first pattern of one or more first electrodes on the primary surface, wherein the one or more first electrodes include silver; and
a second pattern of one or more second electrodes on the primary surface, wherein the one or more second electrodes include zinc, and wherein the second pattern is positioned in proximity to and physically separated from the first pattern.
23. (New) The apparatus of claim 21, wherein the pattern comprises:
a first pattern of one or more first electrodes on the primary surface, wherein the one or more first electrodes include silver and a first binder; and
a second pattern of one or more second electrodes on the primary surface, wherein the one or more second electrodes include zinc and a second binder, and wherein the second pattern is positioned in proximity to and physically separated from the first pattern.
24. (New) The apparatus of claim 21, wherein the pattern comprises:
a first pattern of one or more first electrodes on the primary surface, wherein the one or more first electrodes include silver;
a second pattern of one or more second electrodes on the primary surface, wherein the one or more second electrodes include zinc, and wherein the second pattern is positioned in proximity to the first pattern; and

one or more conductive lines between the first electrodes and the second electrodes, wherein the one or more conductive lines are to deplete more rapidly than the pattern when brought into contact with the conductive material.

25. (New) The apparatus of claim 21, wherein the article includes a wound dressing.

26. (New) The apparatus of claim 21, wherein the article is selected from a group of articles that includes a medical instrument, a dressing, an implant, a gown, a glove, a sock, a table, and a door knob.

27. (New) The apparatus of claim 21, further comprising:
an elastic adhesive layer to secure the article over an area of damaged tissue such that the primary surface is toward the area of damaged tissue.

28. (New) An apparatus to facilitate wound healing comprising:
an article having a primary surface, wherein the article is flexible, enabling it to conform to an area of damaged tissue; and
a pattern of spaced dissimilar materials, on the primary surface, wherein the pattern is to spontaneously produce electrical currents when brought into contact with a conductive material.

29. (New) An apparatus comprising:
an article having a primary surface; and
a pattern of spaced dissimilar electrodes, on the primary surface, wherein the pattern is to spontaneously produce an array of electrical currents when brought into contact with a conductive material.

30. (New) The apparatus of claim 29, wherein the pattern comprises:
a first pattern of one or more first electrodes on the primary surface, wherein the one or more first electrodes include silver; and

a second pattern of one or more second electrodes on the primary surface, wherein the one or more second electrodes include zinc, and wherein the second pattern is positioned in proximity to and physically separated from the first pattern.

31. (New) A method comprising:

securing a medical apparatus to an area of damaged tissue, wherein the medical apparatus includes a pattern of spaced dissimilar electrodes on a primary surface of the medical apparatus, and wherein the medical apparatus is secured to the area of damaged tissue so that the primary surface contacts the area of damaged tissue, resulting in production of spontaneous electrical currents generated across the spaced dissimilar electrodes.

32. (New) A method comprising:

applying a pattern of spaced dissimilar materials to a primary surface of an article, wherein the pattern is to spontaneously produce electrical currents when brought into contact with a conductive material.

33. (New) The method of claim 32, wherein applying the pattern comprises:

applying a first pattern of electrodes, which include silver; and
applying a second pattern of electrodes, which include zinc.

34. (New) The method of claim 32, wherein applying the pattern comprises:

applying the pattern to an article selected from a group of articles that includes a medical instrument, a dressing, an implant, a gown, a glove, a sock, a table, and a door knob.